Body as the Interface : the Aesthetics of Techno-Intimacy with Sociocybernetics

Desire engineers 'partial objects, flows, and bodies' in the service of the autopoiesis of the unconscious.
—Deleuze and Guattari «Anti–Oedipus», 1972

In 1970s, Deleuze and Guattari argued that desire is a positive process of production which produces reality. And we can see the prosperous development of technology—on the one hand, it marries design to make clothes as our second skin, which can breathe and interact with the surroundings. On the other hand, various online games, applications and social media also co-create multiple 'Imagined Communities'[1] which ubiquitously demand our emotions to engage in. From Deleuze and Guattari's point of view, the unseen desire is 'a machine, and the object of desire is another machine connected to it.'[2] That is to say, it would be invalid to analyze the operation of society through human/machine dichotomy; instead, we can benefit from the 'posthumanism' thinking which "converge on a new theoretical model for biological, mechanical, and communicational process that remove from any particularly privileged position in relation to matters of meaning, information, and cognition." as Cary Wolfe indicated.[3]

In the recent decades, Techno-intimacy has been one of the major interesting research subjects, which not only aims to point out the getting-closer relationships between man and machine, but also identifies its social impacts. Allison(2006)[4] raised several concerns about the concept of 'techno-intimacy', which she demonstrated the significant relationship between human and virtual pet based on hardware. Furthermore, she provided in-depth analysis of this relationship and called it 'prosthetic sociality'—" electronic goods that attach to the body and keep users continually plugged into circuits for information, communication, and affect" (as cited in Ota, 2014)[5] So far, we can see how complex of this evolving issue—intimacy—including not only the interaction between individual and the collective but how technology penetrates the users' mental state, rebuilding their habitus as well.

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[1] 'Imagined Communities' is the concept coined by anthropologist Benedict Anderson to analyze nationalism. Anderson depicts a nation is a socially constructed community, imagined by people who perceive themselves as part of the group—even there is no everyday face-to-face interaction between members. Here, I use Anderson's concept to describe the characteristics of interpersonal relationship in virtual world. Retrieved from https://en.wikipedia.org/wiki/Imagined_community

[2] Gill, D. and Pierre-Félix, G.(1972) Anti-Oedipus. Trans. Robert Hurley, Mark Seem and Helen R. Lane. London and New York: Continuum, 2004. Vol. 1 of Capitalism and Schizophrenia. 2 vols. 1972-1980.

[3] See the "Introduction" xii. Cary, W. (2009). What Is Posthumanism. USA: University of Minnesota Press.

[4] Anne,A. (2006). "Tamagotchi. The Prosthetics of Presence", Millennial monsters: Japanese toys and the global imagination, University of California Press.

[5] Natsuki, O.(2014) Techno-intimacy in Japan. Retrieved from https://japansociology.com/2014/06/28/techno-intimacy-in-japan/

In the book «The Information Age», Castells (1996)[6] indicated how global economy is now characterized by the instantaneous flow of networking. He wrote that "The inclusion/ exclusion in network, and the architecture of relationships between networks, enacted by light-speed information technologies, configure the dominant processed and functions in one societies." To make this issue clear, I would like to adopt the approach of sociocybernetics to delve into 'Techno-intimacy' through two directions: body and mind. The former would deal with wearable technology and the changing concept about human body, while the latter would focus on game culture and artistic intervention with new media technology.

Wearable technology : interacting with otherness

Recent developments in the field of wearable technology have led to renewed interest not only in art space but also in design and fashion industries. We can divide these developments into three types: interacting with objects, interact with human beings, and interact with the environments.

Before designer Hussein Chalayan launched his revolutionary show,'One Hundred and Eleven' Spring/Summer collection 2007[7], which used the robotic and early-stage wearable technologies to shift a ruched skirt into a glamorous floor-length cocktail dress, he had already demonstrated the concept of 'Clothes as the second and the third skin of human being' in 2000 Autumn/Winter collection[8]. The show named 'After words', according to the report on Vogue magazine, the final show was astonishing." Four models clad in chic gray shift-dress approached the set of chairs, remove the cover and literally put them on. The chair covers became perfect versions of the shifts they were already wearing. The last model stepped inside the table, lifted it up, and it transformed into a wooden skirt."[9] As McLuhan proposed that media themselves could be seen as the extensions of man[10], Chalayan played this idea even more on *Gravity Fatigue*, the latest collaborated contemporary dance with London Sadler's Well, that he directed dancer's body language via the features of wearing objects. As Belgian choreographer Damien Jalet said: " This collaboration deconstructs the relationship between costumes and dance..[…] The costumes relatively change the cognition and perception of our bodies."[11]

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[6] Manual, C. (2010). The Information Age— Economy,Society, and Culture, volume 1 The Rise of the Network Society, Second edition with a new preface, UK: John Wiley & Sons, Ltd., Publication

[7] The whole show is accessible on Youtube. Retrieved from https://www.youtube.com/watch?v=Ae81Fcczsl8

[8] The whole show is accessible on Youtube. Retrieved from https://www.youtube.com/watch?v=qsNLsnnAY8Q

[9] Plum, S.(2000) FALL 2000 READY-TO-WEAR: Chalayan. Retrieved from http://www.vogue.com/fashion-shows/fall-2000-ready-to-wear/chalayan

[10] « Understanding Media: The Extensions of Man» (1964) is the pioneering study in media theory. In this widely known work, McLuhan proposed his influential insight of 'the medium is the message'. Retrieved from https://en.wikipedia.org/wiki/Marshall_McLuhan#Key_concepts

[11] Athena,C. (2015) Fashion Subverts Contemporary Dance : the first directed performance «Gravity Fatigue» of Hussein Chalayan. Retrieved from http://dappei.com/articles/1016

The fashion project 'Intimacy White' (2009) developed by Studio Roosegaarde and V2_Lab can be cited as a great example as the second type of interactive artwork: interacting with others. This project consists of high-tech garments made with wireless, interactive technology and e-foils, which will become transparent when others approaches the wearer. The distance towards the high-tech dresses determines their level of transparency, creating a sensual play to question the intimate experiences in nowadays techno-society.[12] Similarly, the Japanese underwear company Ravijour also collaborated with Rhizomatiks[13] to produce the concept bra called 'TRUE LOVE TESTER', which collects the heartbeat data of female wearer and send it to the special app via Bluetooth to decide whether the bra would open or not. In addition, Montreal-based designer and professor Ying Gao's interactive dresses '(NO)WHERE (NOW)HERE'(2013) is another good example to show the impact of presence and disappearance in human relationships. These two interactive dresses are made of photoluminiescent thread and embedded eye tracking technology, which would be activated by spectator's gaze and blinking in the dark.[14]

Gao's works also touch the sensation of the immaterial and the inorganic, which is the third type of interactive artwork: interacting with the environments. The 'Walking City'(2011)[15] dress is activated by movement sensor, a hidden pneumatic pumps which detect the viewer's presence. When the piece is filled with air, the origami-style fabric contract and expand. Moreover, the 'incertitude'(2013)[16] project is a series of sound-activated garments, which engages the spectator on a conversational level through the motion of the pins, providing a dialectical space between dialogues and (mis)understandings of interpersonal relations.

E-intimacy : Identities, Trust, Desires

In terms of understanding, which unfolds the action of empathy and expanding identity, Larry Achiampong and David Blandy's series work '*FF Gaiden*' (2016) is a clever approach to transform the virtual space and game narrative into the allusion of the reality.[17] They collaborated with various group in different cities— they created '*FF Gaiden: Delete*' with organization Mennisker i Limbo in Oslo, describing the traumatized experiences of undocumented people. '*FF Gaiden:*

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[12] See 'INTIMACY WHITE' artistic statement on V2_website. Retrieved from http://v2.nl/archive/works/intimacy-white

[13] Rhizomatiks was founded in 2006 by media artist Daito MANABE, who was acclaimed internationally as one of the eleven key persons, including John Maeda and Hans Zimmer. Rhizomatiks carries out collaborative projects with artists in various genres making the most use of programming and interactive design. Retrieved from https://design.rhizomatiks.com/works/ravijour_true_love_tester.html See the video (with English subtitle) https://www.youtube.com/watch?v=vQNyAU8WEmg

[14] See '(NO)WHERE (NOWHERE)' artistic statement on Gao's website. Retrieved from http://yinggao.ca/interactifs/nowhere-nowhere/

[15] Rose, E. (2011) Walking City dresses by Ying Gao. Retrieved from https://www.dezeen.com/2011/07/20/walking-city-dresses-by-ying-gao/

[16] See 'INCERTITUDES' artistic statement on Gao's website. Retrieved from http://yinggao.ca/interactifs/incertitudes/

[17] See 'FF Gaiden' artistic statement on Blandy's website. Retrieved from http://davidblandy.co.uk/ff-gaiden/

Alternative' was filmed in Newcastle which discussed about the concept of colonization of Frantz Fanon and the practice of de-colonization in daily life. The latest one,'*FF Gaiden: Control*', collaborated with a group of veterans in prison and family members at HMP Altcourse in Liverpool. Artists use the virtual space of video game *Grand Theft Auto V*, which synonymous with violence, but substitute the testimonies from the veterans themselves for the original narrative to point out the dual identity of 'veteran and offender'.[18] By questioning the governance of the state apparatus, migration issue and the difficulty of rehabilitation, their works show how diverse and complex the contemporary identity currently is.

In addition, the research project 'The Machine to Be Another' has been making good use of neuroscience approach to conduct experiments of 'Empathy' since 2012. According to the BeAnotherLab's website, the investigation concept can be summarized in one question: " If I were you, would I better understand myself ?"[19] Thus, they use the immersive Head Mounted Display Oculus Rift and first-persona cameras in order to make participants see through the eyes of the other. They conducted numerous experiments worldwide, including: racial swap, embodiment of pain tolerance, conflict resolution through Virtual Reality,etc. In my opinion, the most impressive one might be 'Gender Swap' experiment which demands both participants constantly correspond to every movement they make; otherwise, the embodiment does not work. [20]At the end of the documentation, the participants are almost naked because of their trust on each other.

When it comes to trust, one of the deepest relations of human communications, some artists noticed that digital technology has changed the way we rely on people, even the way we perceive each others. '*Tele_Trust* ' by Karen Lancel and Hermen Maat, asks the most fundamental question of the digital age— 'how do we trust each other online?' 'Do you need to see my eyes? Or do we need to touch?'.Through requesting participants to wear the DataVeil and touch their 'networking bodies', they pointed out the paradox we are facing—while in our changing social eco-system, we increasingly demand transparency, we cover our bodies with personal communication-technology.[21]

Besides the interplay of physical touch (the body in DataVeil) and virtual touch (swipe out the screen), Jonathan Reus's 'Satelite Skin' demonstrates the opposite pole of the spectrum—encouraging more 'human touch'. 'Satelite Skin' is a 'radio-transmission' apparatus which serves as an intimate meeting point. The body movement (e.g. touch, hug,..etc) of the participants will generate the audio-feedback loops to emerge in the space, which to some extent, turns

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[18] See 'FF Gaiden: Control' video and artistic statement on the website of FACT Liverpool. Retrieved from http://www.fact.co.uk/get-involved/communities/ff-gaiden-control.aspx

[19] See the 'Research Concept' on their website. Retrieved from http://www.themachinetobeanother.org/?page_id=818

[20] See 'Gender Swap' video and artistic statement on their viemo. Retrieved from https://vimeo.com/84150219

[21] See the artist statement of 'Tele_Trust' on their website. Retrieved from http://www.lancelmaat.nl/work/tele-trust/

participants' bodies into human instrument[22]—another interface connecting sound and the environment.

The other piece also designed by Karen Lancel and Hermen Maat, 'E.E.G. Kiss', through deconstructing the most emotional action— kiss of human beings and reconstructing a new digital synthetic kissing ritual in public space, they question the authenticity of intimate experiences which have been mediated by technology and highlight the disputable issue of privacy— Do we want to save our private kiss in a transparent database—to be used by others?

Either using the technology to swap visions, transform touch and kiss in real life or using the virtual space to subvert prejudices, both of them aim at arousing empathy in order to be embraced by the networking society. However, there is one kind of techno-intimacy aims not to go back to the reality, namely, abandon the society and satisfy the virtual relationships.

Zoggel (2011) [23] traces the development of the dating simulation video game 'Love Plus' and the related OTAKU subculture in Japan. He adopts Saito Tamaki's psychoanalytic approach and quotes his description of OTAKU as follows : "They have affinity for fictional context; They resort to fictionalization in order to posses the objects of their love;[…] For them fiction itself can be a sexual object."(Tamaki, 2007) To put it another way, one the one hand, they 'materialize' the beloved characters of games, comic and animation by collecting their posters, figures, dolls and toys[24], even attending the concert of these virtual idols such as Hatsune Miku[25]. On the other hand, they 'fictionalize' the love/sex need of human beings. According to Zoggel (2011), one male player who uses the handheld game console—moniker SAL9000, married his virtual girlfriend, Nene Anegasaki, in *Love Plus* (Meyers, 2009). He took her to honeymoon, posted their wedding video on social media and vowed that he would continue playing Love Plus, because "I wont cheat on Nene" SAL9000 said.[26]

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[22] See the artist statement of 'Satellite Skin' on artist website. Retrieved from http://jonathanreus.com/portfolio/satellite-skin/

[23] Guan van Zoggel (2011). Serious 'techno-intimacy'—Perceiving Japanese dating simulation video game as serious games. Universiteit Utrecht. Retrieved from https://zh.scribd.com/document/74023489/Serious-techno-intimacy-Perceiving-Japanese-dating-simulation-video-games-as-serious-games

[24] See 'The Men Who Want To Marry Japanese Cartoon' video on youtube. Retrieved from https://www.youtube.com/watch?v=IrgCjeXrmD4

[25] Hatsune Miku (初音ミク) is a humanoid persona voiced by a singing synthesizer application developed by Crypton Future Media in 2007. She blew up on video sharing channel and soon became a pop culture phenomenon whose influence is beyond OTAKU subculture and opens new genre of music creation and entertainment industry. Recently, her concert tour to North America. Retrieved from http://arstechnica.com/the-multiverse/2016/04/waving-glow-sticks-at-hologram-anime-pop-stars-our-night-with-hatsune-miku/

[26] See 'SAL9000 & Nene Anegasaki' report and wedding video. Retrieved from http://knowyourmeme.com/memes/events/sal9000-nene-anegasaki

In fact, this relationship between man and virtual figure not only happens in Asia context, but in Western context as well. The award-winning film *Her*, directed by Spike Jonze in 2013, also touches the intimacy issue between man and digital persona. It is an American romantic science-fiction drama film, talking about the story of a man who develops a relationship with Samantha, an intelligent computer operating system personalized through a female voice.[27]

At the end of 2016, '*Gatebox*' showed up on the market which provides a 'holographic wife', Auzuma Hikari, who serves as a personal assistant of the 'master' (buyer). According to the Morris (2016),' Within 20 years, 1/3 Japanese men are expected to be single for their entire lives.'[28] And the Gatebox encapsulates the social isolation that strangled Japan's trouble socio-economic landscape. When we trace back the concept of 'techno-intimacy' from Allison (2006), it is unbelievably rapid development of technology from virtual pet (Tamagochi) to virtual wife (Gatebox) , which keeps supporting the unsatisfied human desires. But what is the 'unsatisfied desire'? As Bauman discovered in his book «Liquid Love»(2003)[29], 'The uncanny frailty of human bonds,the feeling of insecurity that frailty inspires, and the conflicting desires that feeling prompts to tighten the bonds yet keep them loose.' Furthermore, anthropologist Katsuno Hirofumi identified that 'being able to have companion makes people pleased even if it is not real human. A heart to heart relationship between human and robot is important to the heartlessness in humanity.' (as cited in Ota, 2014)

As Luhmann(1982) proposed that 'interpersonal interpenetration' is the homonymy of the intimate relationship[30]. Through the development of the past decades, technology has already been an inalienable part of our lives. In my opinion, this 'interpersonal' could not only refer to real human but the virtual persona as well. I would like to cite a few sentences from Lacan's concept of 'extimacy' as follow:

> It creates the void and thereby introduces the possibility of filling it. Emptiness and
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> fullness are introduced into a world that by itself knows not of them.[31]

To put it differently, through investigating the fluctuation of intimate relationships between man and machine, we might find what is getting lost in humanity; by asking how is it possible to fall in love

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[27] See 'Her' trailer on youtube. Retrieved from https://www.youtube.com/watch?v=WzV6mXIOVl4

[28] David Z. M. (2016), 'The Creepy Virtual Assistant That Embodies Japan's Biggest Problems', Fortune magazine. Retrieved from http://fortune.com/2016/12/18/gatebox-virtual-assistant-japan/ (posted on 18th Dec, 2016)

[29] Zygmunt B.(2003), Forward viii., Liquid Love—On the Frailty of Human Bonds, UK: Polity Press

[30] Niklas L.(1982), Liebe als Passion: Zur Codierung von Intimität. English version : Love as Passion: The Codification of Intimacy.(1986) Translated by Jeremy Gaines and Doris L. Jones. Chinese version : 愛情作為激情: 論親密性的符碼化. (2011), 張錦惠和王柏偉合譯

[31] See 'The work does the work' (2014) on blog "Extimacy: An intimate exteriority". Retrieved from http://vargtimmen68.tumblr.com

with a virtual persona as a real 'soul mate' in relationship, we might find some clues about the absence of human bonds between family, workplace, and the whole society—the fetish bearing fills the emptiness, the emptiness fulfills the emptiness.

Therefore, the term 'E-intimacy' I would like to conclude here, not only refers to the electronic, technological dimension of intimacy, but also keeps its openness of developing. It could be 'Expand-intimacy' which enable us perceive and comprehensive the Self more based on the understanding of 'Otherness'; while it could also be interpreted as 'Empty-intimacy', since the penetrating technology has been an inseparable part of our lives, the time we spend on the virtual world is probably more than we spend on real human beings.

Body as the next canvas

The last part I would like to address here is something that has blurred the boundary of Body and Mind—Body is as the interface to interact with the surroundings and others. Compared to the efficient but cold, isolated 'screen', human body seems to be the better receiver which can sense Nature, perceive social environments and identify digital information.Our bodies is like the common ground, connecting multiple sensory layers at the same time.

'*SAROTIS: Experimental Prothesis*' is a research project by Interactive Architecture Lab of UCL. They use the soft responsive material, such as: the stretchable hydrogel, as the sense amplifier. The testers were requested to wear them on his/her neck and belt to perceive virtual environment without sight. Their initial results shows that technology can intensify the attentiveness of the users toward their environments and/or advance their spatial awareness to a subconscious level.[32] Based on Aghakouchak's research[33],'It is predicted that the next generation of prosthetics are not only targeting their effect on the human body figure but will also challenging human senses and the reality resulted by them.' That is to say, by binding the spatial information flow in the body, human would perceive the environments in a new way—constructing new (advanced) human senses virtually and physically.

Following this idea of making prosthetics as our second/new skin, Mcrae's *Swallowable Parfum*[34] goes even further. She designed the cosmetic capsule that release fragment molecules through skin surface upon perspiration, which not only utilizes your skin as the canvas but also transforms your organ into the interface of objects (the odor) and the surroundings (other people and space).

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[32] Maria P. (2016), Binding Softness, Interactive Architecture Lab. Retrieved from http://www.interactivearchitecture.org/binding-softness.html

[33] Ava A. (2016), SAROTIS; The New Sense, Interactive Architecture Lab. Retrieved from http://www.interactivearchitecture.org/sarotis-the-new-sense.html

[34] See the video of 'SWALLOWABLE PARFUM' on Lucy Mcrae's website. Retrieved from http://www.lucymcrae.net

   To sum up, wearable technology demonstrates the external interaction between human bodies, objects and environments. Meanwhile, 'E-intimacy' reveals the internal interactions between interpersonal intercourses via using technology not only on the social perspective but the physical and the virtual aspects as well. As Luhmann's book *Art as a Social System*[35] tells, the indeterminacy of technology and the uncertainty of interactivity both compose the organizational complexity of social systems. Art practices can engage people into the space for doubt without fear, aspiration for the unpredictability, whose contingency would be the very good way to describe the interwoven relationships between man and machine and the recursive development of technology.

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[35] Niklaus L. (2000), Art As a Social System, Translated by Eva M. Knodt, US : Stanford University Press